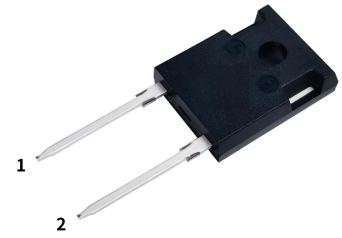
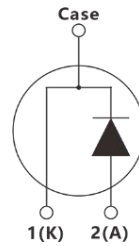


Silicon Carbide Schottky Diode

Parameter	Value	Unit
V_{RRM}	650	V
I_F	10	A
Q_C	47	nC



TO-247-2L

Features

- Zero reverse recovery current
- Zero forward recovery voltage
- Temperature independent switching behavior
- High temperature operation
- High frequency operation

Applications

- Switched-Mode Power Supply
- Power Factor Correction
- Uninterruptible Power Supply
- Boost Converter

Maximum Ratings (at $T_J=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	650	V
Surge Peak Reverse Voltage	V_{RSM}	650	V
Continuous Forward Current $T_C=25^\circ\text{C}$ $T_C=155^\circ\text{C}$	I_F	35 10	A
Non-Repetitive Forward Surge Current $T_C=25^\circ\text{C}, t_p = 10\text{ms}, \text{Half Sine Pulse}$	I_{FSM}	75	A
Power dissipation $T_C=25^\circ\text{C}, T_J=175^\circ\text{C}$	P_{tot}	100	W
Operating junction Range	T_j	-55 to +175	$^\circ\text{C}$
Storage temperature Range	T_{stg}	-55 to +175	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Typ.	Unit
Thermal resistance, junction – case.	R_{thJC}	1.5	$^{\circ}C/W$

Electrical Characteristics (at $T_J=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test conditions	Value			Unit
			Min.	Typ.	Max.	
DC blocking voltage	V_{DC}		650			V
Diode forward voltage	V_F	$I_F=10A, T_J=25^{\circ}C$ $I_F=10A, T_J=175^{\circ}C$		1.27 1.39	1.55	V
Reverse current	I_R	$V_R=650V, T_J=25^{\circ}C$ $V_R=650V, T_J=175^{\circ}C$			50 200	μA
Total capacitive charge	Q_C	$V_R=650V, T_J=25^{\circ}C$		47		nC
Total capacitance	C	$T_J=25^{\circ}C$ $V_R=1V, f=1MHz$ $V_R=650V, f=1MHz$		500 49		pF

Typical Characteristics

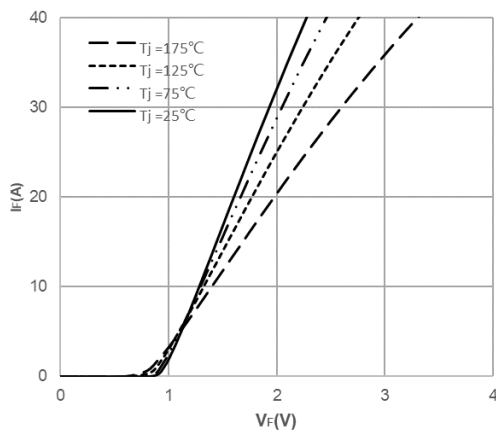


Fig1. Forward Characteristics

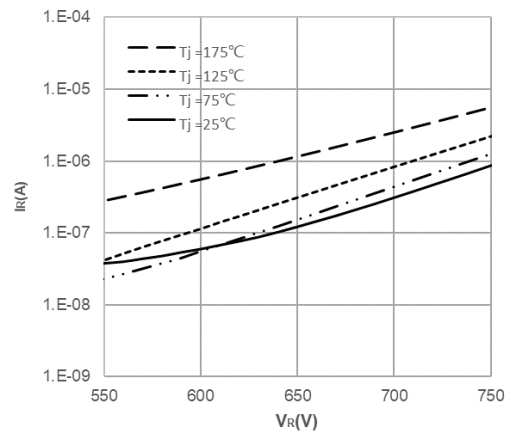


Fig2. Reverse Characteristics

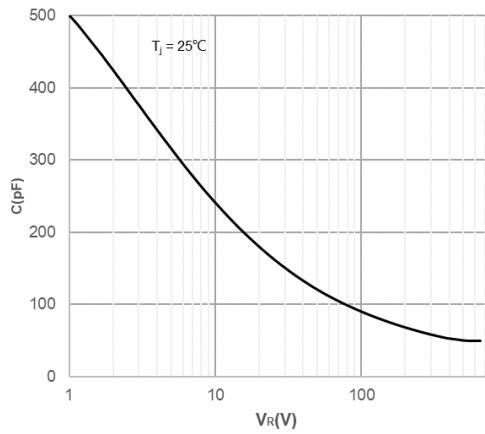


Fig3. Capacitance vs. Reverse Voltage

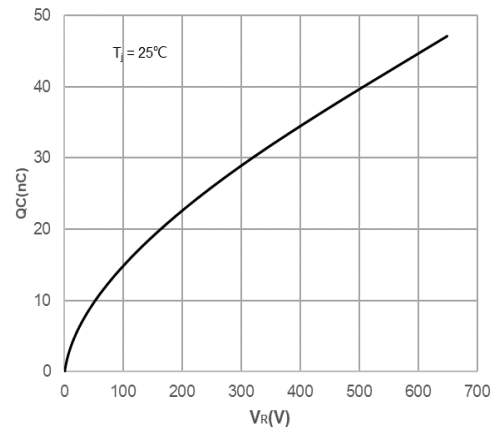
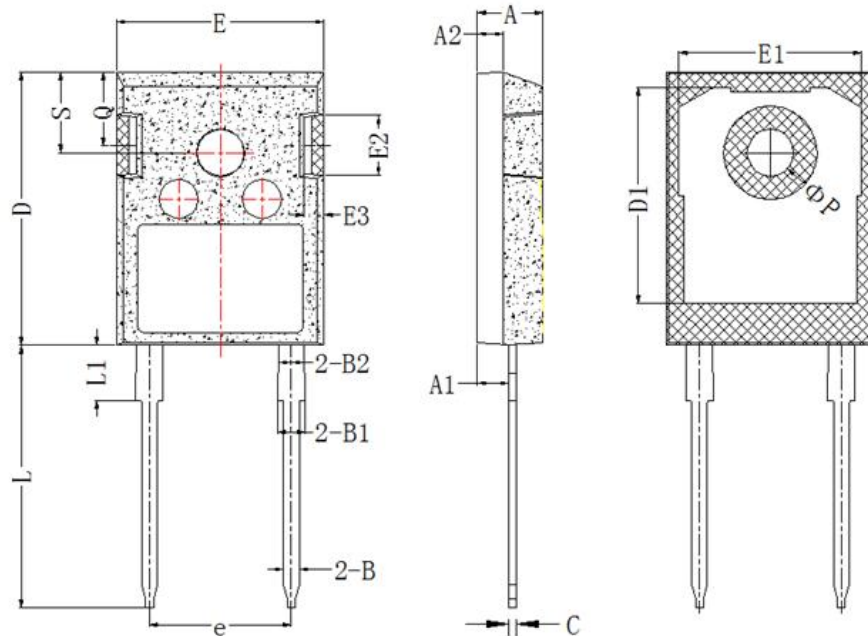


Fig4. Recovery Charge vs. Reverse Voltage

Package Outlines(Unit:mm)

TO-247-2L



Items	Values(mm)	
	MIN	MAX
A	4.85	5.15
A1	2.25	2.55
A2	1.85	2.15
B	1.04	1.33
B1	1.90	2.35
B2	1.90	2.15
C	0.55	0.68
D	20.80	21.10
D1	16.25	17.65
D2	0.95	1.35
E	15.70	16.10
E1	13.50	14.20
E2	3.80	5.00
E3	1.00	2.60
e	10.63	11.13
L	19.80	20.30
L1	4.00	4.50
φP	3.50	3.70
Q	5.40	6.00
S	6.00	6.40

***Important Usage Information and Disclaimer**

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